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(54) Title: LOCALIZED PRODUCTION OF MICROBUBBLES AND CONTROL OF CAVITATIONAL AND HEATING EFFECTS BY USE OF ENHANCED ULTRASOUND

(57) Abstract: The invention is a method of using ultrasound waves that are focused at a specific location in a medium to cause localized production of bubbles at that location and to control the production, and the cavitational and heating effects that take place there. According to the method of the invention, the production and control is accomplished by selecting the range of parameters of multiple transducers that are focused at the location such that they produce by interference specific waveforms at the focal point, which are not produced at other locations. Preferably the region within the focal zone of all the transducers in which the specific waveform develops at significant intensities, is typically very small. The invention is also a system for carrying out the method. The method and system of the invention can be used to perform a variety of therapeutic procedures. Typical of such procedures is occlusion of varicose veins.